

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In Re Application of: )  
Laycock ) Atty. Docket 32414.31.0  
Serial No. (TO BE ASSIGNED) )  
Filed: (CONCURRENTLY HEREWITH )  
For: METHOD AND SYSTEM )  
FOR OPERATING A )  
FINANCIAL INSTRUMENT )

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Assistant Commissioner  
for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Please amend the application filed concurrently herewith as set forth below. A version with markings to show changes made is attached hereto in which deletions are designated by brackets and insertions of new language are underlined.

**IN THE DRAWINGS**

Please amend the drawing figures as shown in red in the attached copies.

**IN THE SPECIFICATION**

On page 1, please delete the paragraph entitled Field of the Invention, and insert the following paragraph:

Cross-Reference to Related Applications:

This application claims the benefit of and priority to British Patent Application No. 0106314.8, filed 14 March 2001.

On page 1, replace "Summary of the Invention" with "Background".

On page 1, please substitute the following heading and paragraph for the second paragraph of page 1:

### Summary of the Invention

The present invention is directed to a financial instrument which can be issued by or on behalf a company. In general terms the invention proposes that a company issues a claim upon its assets which varies as a result of one or more specified events which may be experienced by the company. The claim takes the form of a security that in its initial form is a bond or some other instrument evidencing debt. Following the occurrence of one of the specified events the instrument is transformed into a claim upon the company that has a lower level of seniority in the event of bankruptcy or liquidation than the original form of the claim upon the company, for example some form of equity instrument. Thus, by contrast with the known catastrophe financial products mentioned above, investors get an instrument which changes seniority claim in the event of an operating problem, rather than losing all claims on the assets of the company. While the invention herein is discussed with reference to changed seniority, it will be appreciated that the change in the instrument may also be one of change from secured to unsecured status.

On page 2, replace the second full paragraph with the following:

The specified events belong to a class of events described here as "operational risk events", and the first claim is referred to as a "contingent equity for operational risk events" or CEORE. "Operational risk" is a term known in the financial industry, where a favoured definition is "the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events". Operational risk events include, for example, problems with staff and organisation, relationships with other companies (particularly counterparts in commercial relationships), legal risk, technology, external environment problems, and disasters such as "acts of God". The events preferably do not include any of the following events which we do not regard as operational risk events: a change in price of debt or equity instruments or claims, foreign exchange rates or their various derivatives, nor business or strategic events such as marketing strategies.

On page 3, replace the paragraph numbered 3 with the following:

3. Restitution: payments to clients of principal and/or interest by way of restitution, of the cost of any other form of compensation paid to clients;

On page 4, replace the first paragraph with the following:

The method normally includes a verification process, e.g. by involving an independent third party, confirming that an operational risk event as described in the prospectus has occurred. Following this verification the event is referred to as a “qualifying” operational risk event.

On page 4, replace the paragraph numbered 2 (near the end of the page), with the following:

2. Preferential Creditors - this generally includes government - local and national - agencies and includes, for example, the Internal Revenue Service, Social Security Administration, state unemployment compensation agencies, and local and regional taxing authorities.

On page 5, replace the paragraphs under “Brief description of the Figures”, with the following:

Exemplary embodiments of the invention and preferred features will now be described in detail for the purpose of illustration only, with reference to the following figures:

Figure 1(a) depicts a timeline and the structure of a first claim according to a representative embodiment of the present invention.

Figure 1(b) depicts a timeline showing the transformation of the first claim of Figure 1(a) into a second claim, according to a representative embodiment of the present invention.

Figure 2 illustrates the currency value of operational risk events as a function of a parameterized characterization of the transformation according to a representative embodiment of the present invention.

On pages 5 and 6, replace the first three paragraphs under "Detailed description of the embodiment" with the following:

Figures 1(a) and 1(b) show the transformation as a function of time of a first claim, shown in Fig. 1(a) into a second claim, as a function of time, as shown in Fig. 1(b), due to the occurrence of an operational risk event. The horizontal axis 102 shows time passing from left to right.

The initial claim or instrument is issued at  $t_i$  104 as a form of debt that expires and is redeemed at  $t_r$ , with a time to expiration of  $T=(t_r - t_i)$  indicated by 108. If no qualifying operational risk event takes place prior to  $t_r$  106, then the instrument expires at  $t_r$  106 and is redeemed in accordance with the terms of the prospectus or agreement between the parties. This can be seen in Figure 1(a).

However, if there is a qualifying operational risk event, at  $t_e$  110, then the instrument or claim is transformed. This can be seen in Figure 1(b). The time to the qualifying operational risk event can never be beyond the time to expiration of the initial claim or instrument, i.e.  $t_e - t_i$  (indicated by 112)  $\leq t_r - t_i$ , (indicated by 108).

On page 6, replace the third paragraph with the following:

The operational risk events can be put into broad classes such as Staff & Organisation, Relationships, Technology, External Environment, and Disasters. These classes include IT failures, criminal actions against the company (direct or indirect) by individuals employed by the company or independent of the company, and Acts of God such as Earthquakes. Each event has a "size" (e.g. a quantification of the loss suffered by the company as a result of the event), and the event only qualifies if its size is above a minimum size associated with that type of event; for example there may be a minimum size for each respective class of event. For each instrument issued, the related prospectus, describing the terms and conditions, would contain a description of the operational risk events which qualify to trigger the transformation of the claim or instrument, including the minimum and maximum sizes of those events.

On page 7, replace the last two paragraphs with the following, (the last paragraph bridging pages 7 and 8):

Upon the determination that a qualifying operational risk event has occurred there are a number of choices over the size of the transformation of the initial claim. The transformation could be for the entire proceeds of the initial sale of the initial claim, or the transformation could be for the portion of the claim over a trigger, as shown in Figure 2. Figure 2 depicts a graph 202. In the figure the vertical axis (y-axis) 204 indicates the currency value of qualifying operational risk events. The horizontal axis 206 indicates another independent variable characterizing the transformation: a parameter  $p$ , e.g., the value indicated at 208 which is a linear proportionality constant relating the value of the transformation to the value of the event which caused it. The proportionality may be linear.

A given operational risk event will have an associated currency value  $X$ , indicated at 210. For operational risk event to be a qualifying operational risk event the associated currency value must be greater than the trigger  $X_t$  212 for the transformation,  $X > x_t$ . In the event that the currency value of the operational risk event,  $X$ , is greater than a cap  $x_m$  214, then the value of the transformation will be limited to  $x_m - x_t$  indicated by 216. For example, if the currency value of an event,  $X$ , was \$100, the trigger,  $x_t$  was set at \$50, and the cap,  $x_m$  was set at \$75, then the value of the transformed claim would be \$25. The benefit  $x_m - x_t$  216 from the transformation into a lower status claim should at most be the monetary receipts or proceeds  $V_{ic}$  from the original sale of the initial claim by the issuing company.

On page 8, replace the first, second and third full paragraphs with the following:

If the currency value of the qualifying operational risk event  $X$  210, is less than the cap,  $x_m$  214, then there is a choice between limiting the transformation to the extent of  $X - x_t$  218, or transforming the entire claim irrespective of  $X - x_t$  218, in a binary or digital reaction. The value of the transformation in this case is less than the currency receipts  $V_{ic}$  at the time of issue of the initial claim.

When the value of the transformation  $v_t = X - x_t$  is less than the maximum of  $x_m - x_t$  216 for example 40% of the maximum, there are a number of choices. One choice is pro rata for each individual initial claim that was issued for example to transform 40% of each initial claim. An alternative is to select individual initial claims by ballot or other sampling process from the pool of securities evidencing the initial claim. The prospectus will have to define which choice is used.

The prospectus will also have to define the treatment of the remaining initial claims or residual untransformed portion of  $x_m - x_t$ . One choice is to prevent any untransformed portion from being transformed even if there are subsequent qualifying operational risk events before the redemption date of the initial claim,  $t_r$ . Alternatively, the initial claims remain valid with a reduced cap,  $x_m^*$  where  $x_m - x_m^*$  is the value of the initial claim that has been transformed, until  $x_m^* = x_t$ . That is  $x_m^*$  should not be lower than  $x_t$  212.

On page 9, replace the last paragraph with the following:

There are a number of components to the valuation of the embedded option. The components include a distribution of the currency value (or some other statistical description) of the potential operational risk events that are in the categories described in the prospectus. There are the values for trigger,  $x_t$  212 the exercise price of the option, and the cap  $x_m$  214, that sets a maximum payout of the option. One or more interest rates will also be required, for example from the period from issuance until redemption of the initial claim,  $t_r - t_i$ .

## IN THE CLAIMS

Please replace claims 1-7 with the following claims 1-9:

1. A method of operating a financial instrument associated with a company, the method comprising:

establishing a financial instrument to include a first claim on a company at a first seniority level, the financial instrument being associated with a predefined future time

period and with one or more specified events which the company may experience during the period;

upon one of the specified events occurring during the period, transforming the first claim being transformable to a predefined second claim having a second seniority level lower than the first seniority level.

2. A method according to claim 1 in which the specified events comprise at least one of the following operating events (i) staff problems, (ii) organizational problems, (iii) problems in relationships with counterparts to contracts (iv) problems in relationships with counterparts in commercial arrangements, (v) technology problems, (vi) external environment problems, and (vii) natural disasters.

3. A method according to claim 1 or claim 2 which upon an event occurring which is alleged to be one of said specified events, said transformation is effected only upon verification by an independent party that a qualifying event has occurred.

4. A method according to claim 1 or claim 2 in which the second claim depends upon a value associated with the specified event which has occurred.

5. A method according to claim 3 in which the second claim depends upon a value associated with the specified event which has occurred.

6. A method according to claim 4 in which the difference in respective values of the first and second claims is a function of the value associated with the specified event which has occurred.

7. A method according to claim 5 in which the difference in respective values of the first and second claims is a function of the value associated with the specified event which has occurred.

8. A computer-based method of establishing a value of an instrument associated with a company comprising the steps of:

including a first claim on a company at a first seniority level, attendant to a financial instrument being associated with a predefined future time period and with one or more events which the company may experience during the period;

upon one of the specified events occurring during the period, providing for the transformation of the first claim to a predefined second claim having a second seniority level lower than the first seniority level;

obtaining a statistical model of the likelihood of occurrence of the specified event or events; and

deriving the value of the instrument using the statistical model and respective values of the first and second claims.

9. A computer system for establishing a value of an instrument associated with a company, comprising the steps of:

including a first claim on the company at a first seniority level attendant to a financial instrument being associated with a predefined future time period and with one or more contingent events which the company may experience during the period;

upon one of the specified events occurring during the period, providing for the transformation of the first claim to a predefined second claim having a second seniority level lower than the first seniority level;

providing a statistical model of the likelihood of occurrence of the specialized event or events; and

deriving the value of the instrument using the statistical model and respective values of the first and second claims.

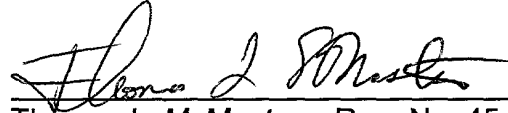


**REMARKS**

A version of the amended specification and claims, showing additions and deletions by way of underlining and bracketing, is attached.

Respectfully submitted,

Dated: 3/14/02



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10098678-031402

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE SPECIFICATION**

On page 1, please delete the paragraph entitled [Field of the Invention  
The present invention is directed to a financial instrument which can be issued by or on  
behalf of a company.], and insert the following paragraph:

Cross-Reference to Related Applications:

This application claims the benefit of and priority to British Patent Application No.  
0106314.8, filed 14 March 2001.

On page 1, replace [Summary of the Invention] with Background

On page 1, please substitute the following heading and paragraph for the second  
paragraph of page 1:

Summary of the Invention

The present invention is directed to a financial instrument which can be issued by  
or on behalf a company. In general terms the invention proposes that a company  
issues a claim upon its assets which varies as a result of one or more specified events  
which may be experienced by the company. The claim takes the form of a security that  
in its initial form is a bond or some other instrument evidencing debt. Following the  
occurrence of one of the specified events the instrument is transformed into a claim  
upon the company that has a lower level of seniority in the event of bankruptcy or  
liquidation than the original form of the claim upon the company, for example some form  
of equity instrument. Thus, by contrast with the known catastrophe financial products  
mentioned above, investors get an instrument which changes seniority claim in the  
event of an operating problem, rather than losing all claims on the assets of the  
company. While the invention herein is discussed with reference to changed seniority, it  
will be appreciated that the change in the instrument may also be one of change from  
secured to unsecured status.

On page 2, replace the second full paragraph with the following:

The specified events belong to a class of events described here as "operational  
risk events", and the first claim is referred to as a "contingent equity for operational risk  
events" or CEORE. "Operational risk" is a term known in the financial industry, where a

favoured definition is “the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events”. Operational risk events include, for example, problems with staff and organisation, relationships with other companies (particularly counterparts in commercial relationships), legal risk, technology, external environment problems, and disasters such as “acts of God”. The events preferably do not include any of the following events which we do not regard as operational risk events: a change in price of debt or equity instruments or claims, foreign exchange rates or their various derivatives, nor business or strategic events such as marketing strategies.

On page 3, replace the paragraph numbered 3 with the following:

3. Restitution: payments to clients of principal and/or interest by way [or] of restitution, of the cost of any other form of compensation paid to clients;

On page 4, replace the first paragraph with the following:

The method normally includes a verification process, e.g. by involving an independent third party, confirming that [a] an operational risk event as described in the prospectus has occurred. Following this verification the event is referred to as a “qualifying” operational risk event.

On page 4, replace the paragraph numbered 2 (near the end of the page), with the following:

2. Preferential Creditors - this generally includes government - local and national - agencies and includes [Customs & Excise for Value Added Tax, Inland Revenue, and National Insurance], for example, the Internal Revenue Service, Social Security Administration, state unemployment compensation agencies, and local and regional taxing authorities.

On page 5, replace the paragraphs under “Brief description of the Figures”, with the following:

Exemplary embodiments of the invention and preferred features will now be described in detail for the purpose of illustration only, with reference to the following figures [in which]:

Figure 1(a) depicts a timeline and [which is composed of figures 1(a) and 1(b), shows] the structure of a first claim according to a representative embodiment of the present invention [and its transformation of the present invention].

Figure 1(b) depicts a timeline showing the transformation of the first claim of Figure 1(a) into a second claim, according to a representative embodiment of the present invention.

Figure 2 illustrates the [values of the transformation] currency value of operational risk events as a function of a parameterized characterization of the transformation of Figure 1(b) according to a representative embodiment of the present invention.

On pages 5 and 6, replace the first three paragraphs under "Detailed description of the embodiment" with the following:

[Figure 1] Figures 1(a) and 1(b) show the transformation as a function of time of a first claim, shown in Fig. 1(a) into a second claim, as shown in Fig. 1(b), due to the occurrence of an operational risk event. The horizontal axis 102 shows time passing from left to right.

The initial claim or instrument is issued at  $t_i$  104 as a form of debt that expires and is redeemed at  $t_r$  106, with a time to expiration of  $T = (t_r - t_i)$  indicated by 108. If no qualifying operational risk event takes place prior to  $t_r$  106, then the instrument expires at  $t_r$  106 and is redeemed in accordance with the terms of the prospectus or agreement between the parties. This can be seen in Figure 1(a).

However, if there is a qualifying operational risk event, at  $t_e$  110, then the instrument or claim is transformed. This can be seen in Figure 1(b). The time to the

qualifying operational risk event can never be beyond the time to expiration of the initial claim 5 or instrument, i.e.  $t_e - t_i$  (indicated by 112)  $\leq t_r - t_i$  (indicated by 108).

On page 6, replace the third paragraph with the following:

The operational risk events can be put into broad classes such as Staff & Organisation, Relationships, Technology, External Environment, and Disasters. These classes include IT failures, criminal actions against the company (direct or indirect) by individuals employed by the company or independent of the company, and Acts of God such as Earthquakes. Each event has a "size" (e.g. a quantification of the loss suffered by the company as a result of the event), and the event only qualifies if its size is above a minimum size associated with that type of event; for example there may be a minimum size for each respective class of event. For each instrument issued, the related prospectus, describing the terms and conditions, would contain a description of the operational risk events which qualify to trigger the transformation of the claim or instrument, including the minimum and maximum sizes of those events.

On page 7, replace the last two paragraphs with the following, (the last paragraph bridging pages 7 and 8):

Upon the determination that a qualifying operational risk event has occurred there are a number of choices over the size of the transformation of the initial claim. The transformation could be for the entire proceeds of the initial sale of the initial claim, or the transformation could be for the portion of the claim over a trigger, as shown in Figure 2. Figure 2 depicts a graph 202. In the figure the vertical axis (x-axis) 204 indicates the currency value of qualifying operational risk events. The horizontal axis 206 indicates another independent variable characterizing the transformation: a parameter p, e.g., the value indicated at 208 which is a linear proportionality constant relating the value of the transformation to the value of the event which caused it. The proportionality may be linear.

A given operational risk event will have an associated currency value X indicated at 210. For operational risk event to be a qualifying operational risk event the

associated currency value must be greater than the trigger  $X_t$  212 for the transformation,  $X > x_t$ . In the event that the currency value of the operational risk event,  $X$ , is greater than a cap  $x$  214, then the value of the transformation will be limited to  $x_m - x_t$  216. For example, if the currency value of an event,  $X$ , was \$100, the trigger,  $x_t$  was set at \$50, and the cap,  $x_m$  was set at \$75, then the value of the transformed claim would be \$25. The benefit  $x_m - x_r$  216 from the transformation into a lower status claim should at most be the monetary receipts or proceeds  $V_{ic}$  from the original sale of the initial claim by the issuing company.

On page 8, replace the first, second and third full paragraphs with the following:

If the currency value of the qualifying operational risk event  $X$  210, is less than the cap,  $x_m$  214, then there is a choice between limiting the transformation to the extent of  $X - x_t$  218 or transforming the entire claim irrespective of  $X - x_t$  218, in a binary or digital reaction. The value of the transformation in this case is less than the currency receipts  $V_{ic}$  at the time of issue of the initial claim.

When the value of the transformation  $v_t = X - x_t$  is less than the maximum of  $x_m - x_t$  216 for example 40% of the maximum, there are a number of choices. One choice is pro rata for each individual initial claim that was issued for example to transform 40% of each initial claim. An alternative is to select individual initial claims by ballot or other sampling process from the pool of securities evidencing the initial claim. The prospectus will have to define which choice is used.

The prospectus will also have to define the treatment of the remaining initial claims or residual untransformed portion of  $x_m - x_t$ . One choice is to prevent any untransformed portion from being transformed even if there are subsequent qualifying operational risk events before the redemption date of the initial claim,  $t_r$ . Alternatively, the initial claims remain valid with a reduced cap,  $x_m^*$  where  $x_m - x_m^*$  is the value of the initial claim that has been transformed, until  $x_m^* = x_t$ . That is  $x_m^*$  should not be lower than  $x_t$  212.

On page 9, replace the last paragraph with the following:

There are a number of components to the valuation of the embedded option. The components include a distribution of the currency value (or some other statistical description) of the potential operational risk events that are in the categories described in the prospectus. There are the values for trigger,  $x_t$  212, the exercise price of the option, and the cap,  $x_m$  214, that sets a maximum payout of the option. One or more interest rates will also be required, for example from the period from issuance until redemption of the initial claim,  $t_r - t_i$ .

## IN THE CLAIMS

Please replace claims 1-7 with the following claims 1-9:

1. A method of operating a financial instrument associated with a company, the method [including] comprising:

establishing [the] a financial instrument to include a first claim on [the] a company at a first seniority level, the financial instrument being associated with a predefined future time period and with one or more specified events which the company may experience during the period;

upon one of the [specked] specified events occurring during the period, transforming the first claim being transformable to a predefined second claim having a second seniority level lower than the first seniority level.

2. A method according to claim 1 in which the [specked] specified events [are any one or more] comprise at least one of the following operating events (i) staff problems [and] (ii) organizational problems, (iii) problems in relationships with counterparts to contracts [or other] (iv) problems in relationships with counterparts in commercial arrangements, (v) technology problems, (vii) external environment problems, and (vii) natural disasters.

3. A method according to claim 1 or claim 2 which upon an event occurring which is alleged to be one of said [specked] specified events, [a referral is made to an independent party to verify that a qualifying event has indeed occurred] said transformation [only being permitted if this verification is positive] is effected only upon verification by an independent party that a qualifying event has occurred.

4. A method according to claim 1 or claim 2 [or claim 3] in which the second claim depends upon a value associated with the specified event which has occurred.

5. A method according to claim 3 in which the second claim depends upon a value associated with the specified event which has occurred.



[5] 6. A method according to claim 4 in which the difference in respective values of the first and second claims is a function [such as a linear function,] of the value associated with the specified event which has occurred.

7. A method according to claim 5 in which the difference in respective values of the first and second claims is a function of the value associated with the specified event which has occurred.

[6] 8. A computer-based method of establishing a value of an instrument associated with a company [and] comprising the steps of:

including a first claim on [the] a company at a first seniority level, [the] attendant to a financial instrument being associated with a predefined future time period and with one or more events which the company may experience during the period;

upon one of the specified events occurring during the period [the first claim being transformable], providing for the transformation of the first claim to a predefined second claim having a second seniority level lower than the first seniority level;

[the method including] obtaining a statistical model of the likelihood of occurrence of the specified event or events; and

deriving the value of the instrument using [the] a statistical model and respective values of the first and second claims.

[7] 9. A computer system for establishing a value of an instrument associated with a company, [and] comprising the steps of:

including a first claim on the company at a first seniority level [the] attendant to a financial instrument being associated with a predefined future time period and with one or more contingent events which the company may experience during the period[.];

upon one of the specified events occurring during the period [the first claim being transformable] providing for the transformation of the first claim to a predefined second claim having a second seniority level lower than the first seniority level;

[the system being arranged to receive] providing a statistical model of the likelihood of occurrence of the specked event or events[,]; and

[derive] deriving the value of the instrument using the statistical model and respective values of the first and second claims.

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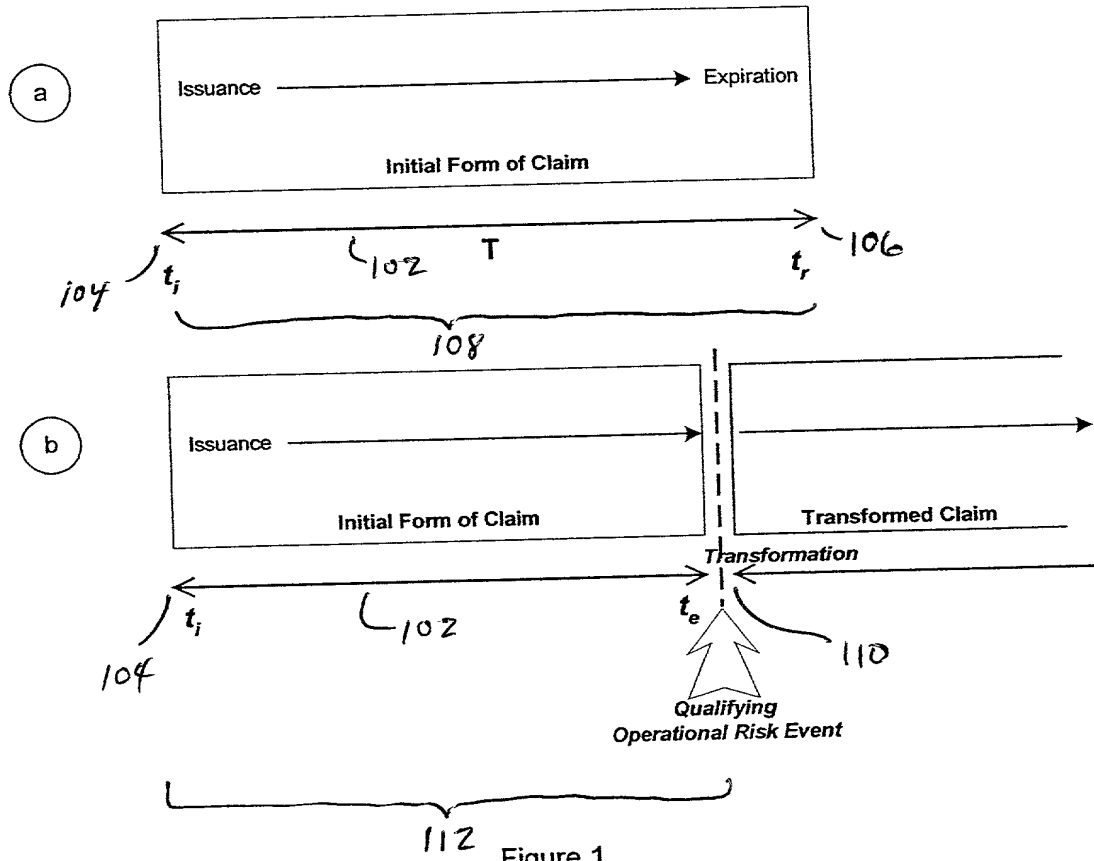


Figure 1

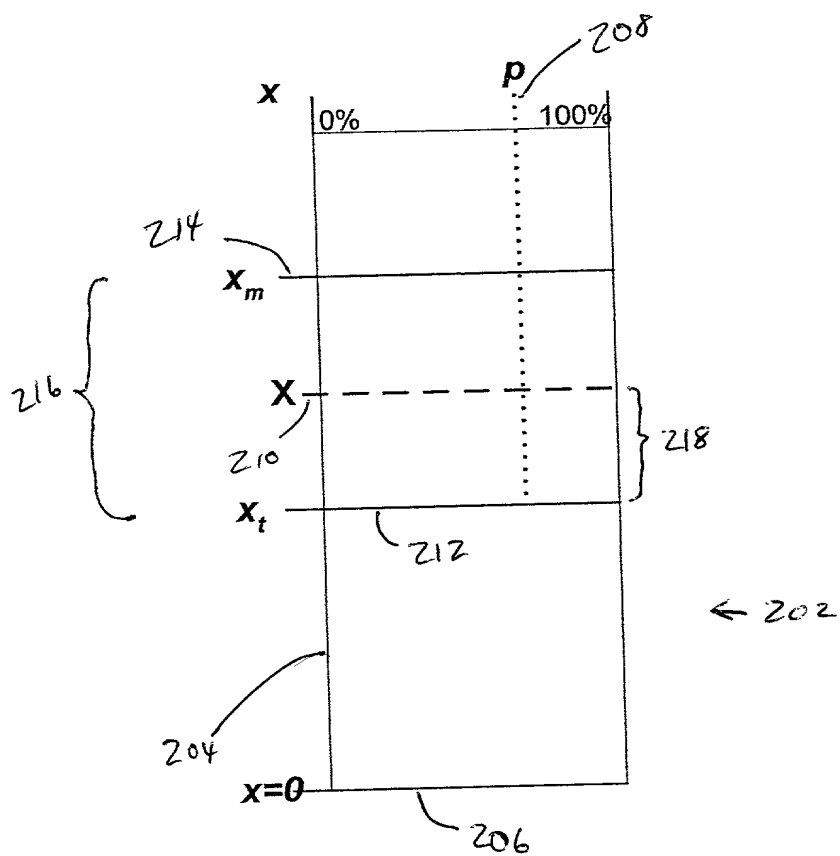


Figure 2

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